

THE CARRIER

April 2001 www.mdarc.org www.pacificon.org



QUALITY MEMBERS ARE THE KEY

The March meeting on transmitter hunting was another great success for content and club participation. We are fortunate to have so many of our own members as eager experts in sharing their knowledge and enthusiasm with the club. Your suggestions to Michael Burge, program chair, are invaluable in directing us to your interests.

I would like to give a very short review of some of the programs in which YOU are involved. This is YOUR club and we are looking for ways to continue to grow the membership and have outstanding programming. When I asked how many members had participated in any public service activity almost 90% had done so. We have a hearty group of ATV stars that share their ideas each week. By the way, be sure to look in this issue for the schedule of shows for the month. We are trying to greatly expand the use of the ATV system by putting on useful programming, in addition to member use for their own transmissions and experimentation. Your fellow members staff the annual auction, the monthly door prize drawing, the directory and carrier. We have monthly VE exams for those new hams or upgrades. Many of our members are RACES members, who dedicate many hours on training and field work. Of course, PACIFICON is a major effort. Throughout the year almost 40 committees are at work for your club. And on the weekend of PACIFICON it takes over 100 members to make it one of the premier hamfests in the country.

So here is my proposal to you. There are many thousands of hams in Contra Costa. Yes, many thousands. We have about 350 members, almost 70% of who support our repeaters with their dollars. I would urge you to— #1- find a ham that is not currently in a club and invite him or her to our club. You know the advantages to them and to us. #2-show off your hobby to a buddy or young person. Get the spark back in your eye...encourage them to get licensed, be an Elmer. It's time to pay back the hobby for all the pleasure you have received. If "EACH ONE FIND ONE" we will easily add important new people to our group. More resources as speakers, more money for projects, MORE FUN!!!

73,
Terry

April Meeting Friday April 20

6:00 PM Opens 7:00 PM Auction starts

The First MDARC Auction of the New Millennium

Our Savior's Lutheran Church
1035 Carol Lane
Lafayette CA

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Weekly Nets

Monday 8:00 PM SATERN Net Salvation Army 147.06
Tuesday 7:30 PM APRS 147.06 *
Wednesday 7:30 PM ATV Cable Channel 58
Thursday 7:30 PM Mt. Diablo Amateur Radio Club 147.06
*Planned
RACES Nets see page 2

RACES Nets

Every Thursday at 19:00 hours

Central County Jim Brunk N6BHX 145.680 /s

South County Ed Ritchie K6SFD 146.355 /+
100pl

East County Jim Tittle KC6SOE 146.535 /s

West County Rich Parker KD6JCT 145.110 /-

AUCTIONEER OFFERS TIPS TO BUYERS AND SELLERS OF EQUIPMENT

By Paul W. Girard, KC6TZU

With the MDARC Spring Auction just around the corner (April 20) there are a couple of tips being offered to both sellers and buyers to make the auction more fun, and increase bargains for buyers and profits for sellers.

First things first. No auction of ham radio gear is worth its salt unless there are plenty of items for sale. If you are like I am it might be a good idea to clean out your shack and start fresh. My departed wife used to do annual spring cleaning claiming that was the only way to get rid of spiders, gophers and moths.

As you clean out the shack, you are going to run across items you have not used in a year or more. If you have not missed them, then bring them to the auction where you will probably earn enough to buy something more useful, or pocket enough for a long cool one on a warm day.

Here are some tips that make items sell fast and for profit.



1. Clean the item up. Get rid of the cobwebs.
2. Identify the item in clear terms.
3. Attach manuals or instruction sheets if you have them.
4. Don't put a minimum bid on the item. If it has value let that value seek itself.

Sellers are charged a set premium based upon the selling price of an article. If a seller bids against himself to protect a price and ends up buying the item, it is a 'buy back' for which the club charges a set fee.

If you are coming to the auction to buy new equipment, be sure to sign up and get your bid paddle. Once you decide to get into the bidding for an item, raise your paddle and leave it up until the amount you want to pay is reached. If the bidding continues beyond your means, be sure to put your paddle down or you might end up buying something for far more than you wanted to pay.

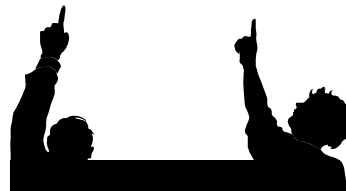
Bidders should be disciplined about purchases. That is, know what you are bidding on and don't bid more than you want to pay.

Once bidding starts it is not polite and darn right distracting, if hams are carrying on conversations on the side. Take idle chatter outside.

At the end of the auction all equipment must be paid for before it leaves the hall. Bring your checkbook or cash. No credit cards are accepted.

Remember. April 20. Doors open at 6 p.m. The first gavel is at 7 p.m. and the last gavel goes down at 10 p.m. The auction is a lot of fun and there are bargains galore for everyone!

See you there.



Kit Review: Almost All Digital Electronics L/C Meter IIB

by Mike Powell, N5GTF

Although I suspect my wife would disagree, I don't think you can have too many neat electronic gadgets. So, when I heard about AADE's L/C Meter IIB I was interested. When I found that it was very good at checking inductors and capacitors with the low values typical in RF work, I was intrigued. When I found out that it was a kit, I was hooked! I fired off a check, and a bit more than a week later the kit was on my bench. The instructions provide good discussions on the theory of operation and operating practice. The assembly instructions are rather brief. In truth, that's all that's required. There are only about three dozen parts. The LCD display comes as a pre-assembled module, and the bulk of the kit's complexity actually resides within a pre-programmed PIC microcomputer. The plastic case has a nicely labeled front that includes brief operating instructions. Holes in the case for the push buttons were a bit rough, but nothing major. What goes inside the case is first rate. The circuit board is double-sided fiberglass with plated through holes. Component locations are clearly marked. Assembly is straightforward, and took me about an hour. There was one small problem with mechanical interference. The header on the LCD display runs into a mounting screw when the display is plugged onto the circuit board. It was easily remedied with an exacto knife.

Once assembled the unit worked as advertised. Interestingly, the unit does not use a bridge arrangement. Rather, it incorporates the reactance to be measured into an oscillator and measures the resulting frequency. The code in the PIC microcomputer calculates the reactance. This approach allows the meter to resolve very small (.01pF and .001uH) steps. While these small step sizes are unrealistic in terms of absolute accuracy, they can be extremely useful in terms of comparing or matching components. Accuracy is nominally 1% of the reading, while the range is .001uH to 100mH, and .010pF to 1uF.

Does the meter meet these specs? Well, I can't honestly say. I no longer have access to calibrated

lab equipment to make a comparison. However, my less formal, not-traceable-to-NIST checks give it a thumbs up. At a hundred bucks, this might seem a bit pricey. A number of DVMs will measure capacitance these days, but the range and resolving power of the L/C Meter IIB really put it in a different class. And don't forget, it measures inductance too. If you're interested in more detail, take a look at Almost All Digital Electronics' web site: www.aade.com, or just look me up at the next meeting.

Cinderella Bicycle Ride Wrap-up

by Arnold Harding, KQ6DI

Lots of volunteer help made supporting the Cinderella Classic Bicycle Ride on March 31 very easy. Officially, 2431 bicycle riders were on the roads this year. There were a few injuries as usual this year. One rider required a couple of stitches, and another was taken to the hospital for dehydration and a possible head injury. By my count, we had 29 Amateur Radio operators supporting the event. The Amateurs were from LARK, MDARC and others interested in supporting the bicycle ride. The Amateur Radio operators were at the start/finish, one critical turn, each of the three checkpoints along the way, and in at least 13 of the support vehicles.

We were able to put APRS (GPS) trackers into 3 vehicles. This allowed net control to see the current location of these vehicles on a map so it wasn't necessary to continually ask for their location. There were areas where the position reports from the vehicles were unable to reach net control, but the system still worked well. It seemed that everyone at net control agreed that APRS is definitely something to use for future events.

I want to thank everyone who helped; Jerry (KK6WB), John (KR6CR), Jeff (KG6EWZ), Art (KF7GD), Matt (KF6NBO), Cliff (KK6SJ), Rick (KF6VSH), George (KF6VSG), Jack (KE6GDK), Forrest (WN6WTV), John (NN6E), J. J. (W6JJP), Clancy (N6FQQ), Mike (AD6TA), Doug (KO6PW), Michael (KG6DER), Bill (K6DRU), Tod (WA6TXS), Cliff (KF6EII), Dick (KE6PXW), Ron (AD6KV), Jim (KE6VRT), Joe (KA6BUD), Bob (KD6OBX), Gene (N6VK), Greg (WA5OQZ), Kathy (KF6TKO), Jeff (KG6AWW).

Upcoming Radio Communication Events

The events listed below are coming up in the near future and still have some slots available. Hams are needed to provide safety and emergency radio communications at various check points or in vehicles that travel the event routes. For most events all you need is a hand-held 2 meter radio and an extra battery; a mag-mount antenna comes in handy at times. Give me a call or email to sign up (925-228-4503, odyssey@ccnet.com). Let me know about any other individual events you want to coordinate. If you want more information about a particular event, call me or the event coordinator. If you are new to this and want to break in gently, we can team you up with another ham.

MS Walk

4/22/01, Heather Farms Park, Walnut Creek
Event Coordinator: Jeff Hart, 925-798-9281

Concord - Mt. Diablo Trailride

5/5/01, Mt. Diablo
Event Coordinator: Tom Seabury, 925-837-4433

Grizzly Peak Cyclist 100 Mile Event

5/6/01, Berkeley – Hercules – Martinez – Orinda – Moraga
Event Coordinator: Valerie Colber, 925-254-0868

Human Race

5/12/01, Lafayette Reservoir
Event Coordinator: Lauren Styles, 925-676-2186

Moraga Horseman's Assn. Trailride

6/23/01, Redwood & Anthony Chabot Regional Parks
Event Coordinator: Tom Seabury, 925-837-4433

4th of July Parade (morning)

7/4/01, Pleasant Hill
Event Coordinator: Bob Williams, 925-934-1873

Sign up! You'll have a great time and be giving something valuable back to your community.

73's Pete Harris, KE6ZIW

LIST OF SCHEDULED ACTIVITY FOR W6CX ATV

SATURDAYS 8:00 AM	COFFEE NET WITH N6SWE
SUNDAYS 8:00 AM	COFFEE NET WITH N6SWE
WEDNESDAY 7:30 PM	ELECTRONICS CLASS WITH KF6IQL
THURSDAY 8:00 PM.	GENERAL ATV NET
APRIL 19-30	REBROADCAST OF NASA TV COVERAGE OF SPACE SHUTTLE ENDEAVOUR MISSION STS-100 TO THE ISS

MDARC Board Meeting Minutes, March 5, 2001

The meeting was called to order by President Terry Matzkin, at 7:30 p.m. Also present were Vice President Michael, KG6CSJ, and Treasurer Trevor, WA6JAU. Directors at Large present were: John, KR6CR, Mike, KE6JGA, Howard, KE6PTT and Tracey, KE6TOT. Others in attendance Reggie, WA6ZAP, Keith, N6PMF, George, WB6OFH, Jay, KT6Y, Greg, KE6VTA, and Harry, K6HS.

Trevor reported that our money market balance is \$26,716.97 and in the checking account is \$5,633.49. He is concerned that the cost of our equipment insurance is too high and perhaps another carrier should be researched. George wants to arrange for an up coming amateur radio licensing class.

Mike, KG6CSJ, announced the program for the March 16th meeting. Rich Harrington and Mike Alison will lead us in a fox hunting discussion and demonstration. Mike also is looking for suggestions for a "hip pocket speaker" in case we are ever left without a program at the last minute. Some ideas in that regard are : ATV training tapes and a video tour of the repeaters. Other suggestions to go to Mike.

John Schulze reminded us that next month's meeting is our annual auction. Howard and Tracey to do announcements on the repeater to generate more interest.

The meeting was adjourned at 8:45 p.m.

Submitted by,
Tracey Schwartz KE6TOT

Two Days, Two Events, Two Strategies for Radio Communication

(this is a reprint of an article that originally appeared in the Carrier October 1999)

by Pete Harris, KE6ZIW

On Saturday and Sunday, September 11th and 12th, 1999, members of the Mt. Diablo Amateur Radio Club provided radio communication for two dramatically different public service events. One took place in a wooded and hilly regional wilderness area, the other on the streets of Walnut Creek. One involved supporting and tracking the progress of horseback riders over 50 miles of rough terrain, the other involved support activities for a 10K run over approximately 6 miles of mostly paved surfaces. One included ham radio operators moving in 4 wheel drive vehicles, while in the other event ham operators were mostly stationed at prescribed checkpoints along the course. These two events posed very different challenges for radio communications, and required different strategies for dealing with these challenges.

The Saturday event, the annual Las Trampas Endurance Trail Ride, coordinated by Joe Gregory, was a fifty mile horse ride competition that took place in Redwood and Chabot Regional Parks. The terrain was rugged, with lots of peaks, valleys, and tall trees, and significant distances separating radio team members. There were approximately 80 riders. Though 6 hams were scheduled to work the event, only 4 actually did, requiring more moving around by the hams.

The Sunday event, the 55th Walnut Festival 5K/10K Run, coordinated by Dick Brown, took place within the city of Walnut Creek, and covered a much smaller area than the Trail Ride. The terrain was generally flat, except for the John Muir Hospital grade, which separated two of the checkpoints from the others. There were several hundred runners taking part. 10 hams were stationed at various checkpoints, or in SAG Wagons, or shadowing the Race Director.

The first issue for a radio communication team using the 2-meter band is usually whether the team will use a repeater or will use a simplex frequency for direct station-to-station communication.

For the Trail Ride Joe Gregory decided that a simplex frequency would be used. The reasons included that hams were either stationed at horse P&R stops (pulse and respiration checks) some of which were located in geographic "holes" from which they could not hit the club repeater, or they were on the move in vehicles and going in and out of repeater contact. Use of simplex, although also very difficult at times, actually provided more consistent communication. With simplex, there was usually at least one team member who was in a position to relay messages between two others who were trying to communicate but couldn't do so directly. Use of a repeater would have made relaying of messages much more difficult because radios would generally be tuned to the repeater output frequency, not the operators' output frequency.

For the 5K/10K Run, it was tempting to use a simplex frequency, since the distance separating all the hams was relatively small (about 3 miles). Advantages of simplex include less disruptions by others using the frequency, leaving the repeater free for others, and less chance for jamming. However it was decided by Dick Brown that the team would use the club repeater (with a backup simplex frequency if needed). The primary reason was that one or two of the checkpoints were on the other side of the John Muir Hospital grade from the net-control operator and could not be reached by simplex. All could reach the club repeater due to its high elevation.

The methods of communication for the two events were quite different. The Trail Ride was operated as an "open net" - that is, there was no person in the official role of net-control, acting as a central hub for input and output of communications. Rather, stations called each other directly as needed. This was more feasible because of the relatively small number of hams and radio transmissions. Relaying of messages became a major way of communicating. There was a kind of de facto net-control, with whoever could hear others assuming at least temporary responsibility for input and output of information. Under the circumstances, having one defined net-control would have been useless because there was no one position from which all other hams could be consistently heard.

The 5K/10K Run, however, was run under a "net-control" system, in which most of the messages came in to the net-control ham and were passed back out from net-control to the appropriate person(s). The large number of hams on the team and high number of radio transmissions would have made station-to-station communication somewhat chaotic. Another factor was that the event organizers were located in the same area where the net-control was and most of the information flowed in and out from those persons. At times, however, net-control Dick Brown directed various stations to communicate directly with each other as needed for specific purposes.

A third difference between the two events was the kind of equipment needed. The Trail Ride relied mostly on the use of full-powered mobile (car) radios and antennas. One ham, who moved around in the Ride Director's truck, used a hand-held, but with a mag-mount antenna on the roof (a cigarette lighter power adaptor or higher capacity utility battery is a must in such a case to get maximum transmitting power and sustain it throughout the event). Hand-helds used solo, even with enhanced rubber duck antennas, were not reliable means of communication. However, there was significant use of mobile radios with crossband repeat capability in conjunction with hand-held radios. Crossbanding allowed a ham to be away from the car with a hand-held and use their (or another's) car radio as a local repeater to boost incoming and outgoing signals. Crossbanding also allowed use of low power transmitting on hand-helds to extend battery life for this long event.

The 5K/10K Run relied mostly on hand held radios with rubber ducks. Hams had to be away from their cars and able to move around on foot. The repeater could be reached easily with low power. There was lots of transmitting but the event was fairly short.

One of the thrilling aspects of participating in public service events as part of an amateur radio team is the challenge of finding communication strategies that best deal with the unique conditions, circumstances and needs of each event. This was well demonstrated by these two events.

WATCH THE W6CX ATV REPEATER

by Daniel Bent, KF6IQL

Weary of all those pesky commercials and mindless sitcoms? Then its time to tune into the W6CX ATV (Amateur Television) REPEATER. Its fun and EZ, I'll try to explain how as best I can.

First one must consider if it's practical from your location. The signal comes from the top of Mt. Diablo. If you have any major obstructions between you and the mountain (if you are at the base or side of a hill blocking line of site to the mountain) you may have trouble or may not be able to receive the signal at all. On the other hand if you can see the mountain you should have no trouble at all if you follow these simple instructions.

Then get a UHF antenna that is good for 427.25 MHz (the output frequency) there are a lot of good antennas out there that will work just fine. I personally would like to recommend the Radio Shack outdoor UHF CORNER REFLECTOR TV ANTENNA Catalog #: 15-2160 YES THERE ARE BETTER ANTENNAS out there but to get started for \$20 I think it's a good deal.

You will need a 300 to 75 ohm matching transformer (outdoor type, again cheap at Radio Shack). Connect the transformer to the antenna and a length of regular TV cable to the output of the transformer and the other end to the input of a cable ready TV. Tune the TV to CABLE CHANNEL 58. Not UHF 58.

Now here's the final trick. You must position the antenna so it is vertically polarized. To mount the antenna on a pole you will have to modify it by drilling some holes in the BOOM of the antenna. You want the elements (rods) of the ant to point up and down. This dose not mean the end of the antenna points up to the sky (I have seen this done). The end of the antenna is then pointed toward Mt. Diablo.

Once your all setup, cross your fingers and hope there is someone using the repeater otherwise all you will see is snow interrupted by the station ID every 10 minuets. We rebroadcast NASA TV 24 hours a day when the Space Shuttle is in orbit so that would be a great time to setup your receiver. There is sporadic activity in the evenings and a test picture is usually available on request simply by asking for one on the W6CX 2 METER REPEATER. (146.060 PL of 100 + offset) if your a licensed amateur radio operator. A picture can be viewed during our ATV meeting every Thursday night at 8:00PM and during our Educational Broadcasts Scheduled for Wednesdays at 7:30 PM.

I think that covers the basics for now. There are many other tricks to improving your reception but we will cover these at a later date as well as information on how to get involved with your own transmitter so YOU can be seen on the air.

If you have any questions feel free to contact me at: KF6IQL@PACBELL.NET

Hope you will join us soon on ATV,

Membership Report – Sam Lipson, KO6JR, Membership Chair

Please welcome our new and returning members, upgrades and changes to our membership. Please make note of these changes in your directory. Submit all changes to the membership chair at the PO box or at ko6jr@arrl.net – 73, Sam

Name, Call, License Class; Spouse Name & Call

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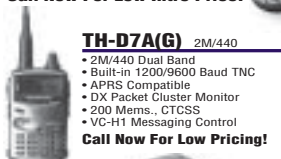
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(408) 736-9496
(800) 854-6046
Ken, K1ZKM, Mgr.
So. from Hwy. 101
sunnyvale@hamradio.com

ICOM



IC-706MkII HF/VHF Transceiver

- All mode HF/6M/2M/70CM
- 100W HF/6M, 50W/2M, 20W/440 MHz
- AF-DSP • Plug and Play Filters - No Soldering
- Easy-to-Navigate Menus

Call For Low Pricing!



IC-756 PRO All Mode Transceiver

- 100W HF/6M • Newly designed 32 bit DSP
- 5 inch TFT color LCD • Digital IF filter with 41 passband widths
- 121 microphone equalized audio settings
- Multiple DSP controlled AGC loops
- Advanced CW functions
- Real time spectrum scope

Call Now For The Ultimate Radio!

YAESU



VX-5R

- 50/2M/440HT
- Wideband RX, 6M-2M-440TX
- 5W output
- 220 mems, opt. barometer unit
- Alpha Numeric Display
- CTCSS/DCS built-in
- Li-Ion Battery

Call For Low Price!



FT-100D HF/6M/2M/70CM Trans.

- Compact Transceiver w/detachable front panel
- Rx 100kHz to 970mHz (cell blocked)
- Tx 100W 160-6M, 50w 2M, 20W 70CM
- Built-in DSP, Vox, CW keyer
- 300 Memories

Call Now For Low Pricing!

ALINCO



DJ-196T 2M HT

- 5 Watt out
- 40 memories
- Alphanumeric Display
- CTCSS + DCS Built-in
- "S" Meter
- Auto Dialer

**CALL NOW
FOR LOW PRICE!**



DR-135TP 2M Mobile

- 50 Watt out • Alpha Numeric Display
- 100 mems • Built-in TNC 1200 & 9600 Baud
- Front Panel GPS in • Rear DB-9 Port
- CTCSS/DCS Encode/Decode built in



FT-1000MP HF Transceiver

- Enhanced Digital Signal Processing
- Dual RX
- Collins SSB filter built-in
- 100W, Power supply built-in

Call Now For Low Pricing!

CALENDAR OF EVENTS

4/20/2001	6:00 PM	MDARC Auction starts at 7:00 PM	
4/21/2001	8:00 AM	PACIFICON General meeting	Emil Villa's in Concord
4/27/2001		Carrier Deadline	
5/07/2001	7:30 PM	MDARC Board Meeting	Emil Villa's in Concord
5/18/2001	7:30 PM	MDARC General Meeting	
5/19/2001	8:00 AM	PACIFICON General meeting	Emil Villa's in Concord
5/25/2001		Carrier Deadline	

Carrier articles should be send to Greg Estep grestep@home.com

MDARC Repeaters

147.060 MHz + / PL 100 Hz	ATV: Input 1253.250 MHz
224.780 MHz - / PL 77 Hz	ATV: Output 427.250 MHz Cable Channel 58
441.325 MHz + / PL 100 Hz	APRS: 144.39 MHz
	TCP/IP: 145.71 MHz

The Carrier
Newsletter of the Mt. Diablo Amateur Radio Club
P.O. Box 23222
Pleasant Hill, CA 94523

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